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COUNTY OF SAN DIEGO  
DEPARTMENT OF ENVIRONMENTAL HEALTH (DEH)  
HAZARDOUS MATERIALS DIVISION (HMD)

ENVIRONMENTAL  
PRESS



*"Environmental and  
Public Health  
through leadership,  
partnership and  
science"*

CHIEF's NOTES

By Michael Dorsey  
HMD's Chief



Managing an environmental regulatory division is not without its challenges. Certainly there are many. However, one of the most interesting challenges that I have is projecting what this division will be doing five and ten years from now. One of the major areas that come into mind when considering this challenge is shifting environmental priorities with advancing technology.

For the past five years, the Hazardous Materials Division (HMD) has begun a shift toward performance based outcomes. We focused on getting all of the significant non-compliant (SNCs) underground storage tanks (USTs) into compliance. I am happy to report that the baseline we set of 395 SNC UST sites has been reduced to zero through a combination of education and enforcement. That doesn't mean we don't have UST sites that are out of compliance but it does mean that we have eliminated our original baseline and markedly improved the level of compliance in this area. In addition, during the past three years the Biotech industry has met their goal of reducing the number of common violations by 50% from the original baseline. This was accomplished working through the Environmental Protection Indicators of California (EPIC). We established this Pilot Project in cooperation with local industry. As we continue to focus on performance outcomes we will need to shift our oversight activities to those areas needing greater attention for compliance. Some of these areas may be traditional manufacturing processes or in some cases new industries or processes that handle hazardous materials and generate hazardous waste.

Two new areas recently gaining attention for regulatory oversight is universal waste and nanotechnology. The scope of universal waste management is huge and it will only get larger over time. There are special rules for people that handle, accumulate, transport and recycle these wastes. Universal waste currently includes such things as fluorescent light tubes, mercury switches, batteries and electronic waste. Electronic waste itself is a pretty large category, including as cathode ray tubes (televisions and computer monitors), computers, cell phones and other electronic devices. The scope is expected to increase as more waste streams are added through legislation. The question is what is the appropriate level of oversight needed to ensure environmental protection and compliance?

One of the more interesting areas gaining attention for regulatory oversight is nanotechnology. What is nanotechnology? Nanotechnology is the manipulation of matter on the scale of atoms and molecules where the size of matter is measured in billionths of meters. At the nanoscale, properties of materials can dramatically change resulting in new properties related to electronic conductivity, elasticity, strength, color, and chemical reactivity. Businesses are now manufacturing nanoparticles for use in a wide variety of commercial products from stain-resistant clothing to crack-resistant paints.

There are scientific discussions currently going on regarding the potential toxicological risks from these small quantities of materials used in new manufacturing processes. Certainly this is one area that may result in a new focus of regulatory oversight. Again the question is, what level of oversight is needed to ensure environmental protection? In planning for the future we must consider these challenges.

HMD's FEATURED  
EMPLOYEE



DAVE CAMMAL

If you thought Dave has been around for some time, you are right. He started his County career more than 20 years ago!

A Navy brat, Dave spent most of his early years bouncing around the different places where his father got stationed. After a few years of moving around, he lucked out when his father got stationed in San Diego for almost 20 straight years. Even though Dave was born in Pensacola, Fla., he has lived here most of his life and considers himself a native San Diegan.

While in high school, Dave excelled in sports, and was the captain of his football team. He also played basketball and baseball. After high school he attended the University of San Diego where he received his Bachelors Degree in Biology.

Not quite sure what to do with himself after graduating, Dave went back to school and got a student worker job that would launch his career. He started out as a student worker for the Food and Housing Division, which back then was part of the Department of Health Services.

(Continued on page 8)



## RMP PERSPECTIVES

### Offsite Consequence Analysis

*By Mark McCabe, EHS III  
CalARP Program Coordinator*

Facilities subject to the California Accidental Release Prevention (CalARP) Program must determine how a release of their regulated substance (toxic chemical) may affect the surrounding area. They must model a theoretical worst case chemical release scenario and an alternative release scenario, which is a more realistic release. If there are no public receptors within this surrounding area, the facility may be in CalARP Program 1. This is not very common. Most facilities will have an offsite impact with a catastrophic release and need to be in CalARP Programs 2 or 3.

#### Radius to the Toxic End Point

The worst case release is modeled using these very specific parameters:

**Largest Container:** 100 % of the quantity held by this container must be totally released within 10 minutes without any active mitigation measures used to minimize the extent of the release.

**Weather Conditions:** They are assumed to maximize the spread of the chemical release, see below.

**Temperature:** Use 25 degrees Celsius (about 77 degrees F) with winds at a slow 1.5 meters per second.

**Air:** Assumed to be very stable with the maximum air stability index F and a relative humidity of 50%. Air stability refers to turbulence in the air and it is measured with the Pasquill-Gifford stability index. Units range from A (most turbulent) to F (most stable). F is used for the worst case scenario and D is used for alternate scenarios.

**Height:** Always assumed to be at ground level or zero feet.

**Surface Roughness:** Either rural or urban, indicating not the proximity to a city, but whether there are structures or trees to break up the wind flow, an **urban area**, or an open area, a **rural area**.

**Gas density:** Typically either denser than air or neutrally buoyant. Dense gases tend to flow along the ground with less mixing in the air, therefore covering a larger area than the lighter neutrally buoyant gases.

#### Alternative Release Scenario

Based on a more likely chemical release, the scenario to model can be chosen by the facility owner or operator. Common scenarios include a broken pipe, a valve failure, container punctures, cylinder change outs or even a transportation accident. The release rate must be calculated over a reasonable period of time, usually the time it would take to repair or stop the release. The weather conditions are more realistic as well. Typically 25 degrees C is used with a 3 meter per second wind and an air stability of D. The height at which the release is modeled to occur may be used as the value for the height of the release.

#### Computer Modeling Programs

There are several computer programs that can be used to model the worst case and alternative scenarios. RMP Comp is the most commonly used program. It was developed by the U.S. Environmental Protection Agency (USEPA) and the National Oceanographic and Atmospheric Administration (NOAA). It is available free of charge at: <http://yosemite.epa.gov/oswer/ceppoweb.nsf/content/comp-dwn.html>. The program is easy to use but only works with federally listed RMP chemicals. California's lists identify additional chemicals and those can not be modeled with RMP Comp.



These two one-ton Chlorine Gas cylinders are regulated by the CalARP Program

ALOHA (Areal Location of Hazardous Atmospheres) is another popular release modeling program. It allows for much more detailed parameter input than RMP Comp, so it can be used for the alternate scenario, where it can be used for different weather

conditions, mitigation and release durations and amounts. For the worst case scenario, however, the worst case parameters specified in the CalARP regulations must still be used. The ALOHA program is frequently used for California-only regulated substances because it has many more chemicals in it than RMP Comp. ALOHA is also used in the Computer Aided Management of Emergency Operations (CAMEO) suite of programs.

#### Sensitive Public Receptors

In addition to determining the radius to the toxic endpoint, the population within this radius must be estimated. Landview 6 is the most commonly used program and it can be ordered from the U.S. Census Bureau at the following web site:

<http://www.census.gov/geo/landview/>. The population estimator in Landview provides the residential population within range of the toxic endpoint. Sensitive public receptors (schools, hospitals, and nursing homes) can be identified through its Marplot mapping application as well as sensitive environmental receptors (parks, wildlife habitat, and nature preserves). Landview 6 can also produce a map of the area affected to include in the Risk Management Plan public document.

An offsite consequence analysis with a worst case and alternative scenario must also be conducted for flammable regulated substances. Instead of basing endpoints on toxicity, these are based on the fire and explosion hazards they present. For explosions, an endpoint of 1 pound per square inch (psi) is used. For fire a radiant heat of 5 kilowatts per meter squared ( $\text{kw/m}^2$ ) and the lower flammability limit of the regulated substances are used. The offsite consequence analysis (OCA) must be reviewed and updated at least every five years, just like the Risk Management Plan public document. An OCA must be updated within six months when any changes in the process increase or decrease the endpoint by a factor of two or more.

If you have any questions about offsite consequence analysis or any other part of the CalARP Program, please call Mark McCabe at 619-338-2453.

## Hazardous Materials Release Reporting

By Michael Vizzier, SEHS  
and John Mistleh, SEHS

### What is a reportable release? When do you report a release?



#### Who receives release reports?

The answers to these questions vary because release reporting is required by several state and federal laws. The Hazardous Materials Division, as the Certified Unified Program Agency (CUPA) in the County of San Diego is responsible for ensuring that persons, who are required by law or regulation to report a release, do make an accurate report in a timely manner.

Three of the six elements of the Unified Program have release reporting requirements that need a response plan to be prepared. These include:

- Hazardous Materials Release Response plan,
- Hazardous Waste Contingency plan, and
- Underground Storage Tank (UST) Monitoring and Response plan.

### When do you report a release?

You should report releases immediately after measures have been taken to protect human health and the environment. Call 911 for emergency assistance. This usually results in a response from the local fire department and possibly the local CUPA. A release that exceeds a federal reportable quantity (RQ) must also be reported to the National Response Center (NRC). Hazardous materials release reporting requirements are the most comprehensive and in most cases overlap with hazardous waste and UST release reporting requirements.

### What is a reportable release of hazardous materials?

There are two types of hazardous

materials releases that must be reported under State Law; a threatened release and a significant release.

#### A threatened release is not a release.

It is a condition that creates a substantial probability of harm and makes it reasonably necessary to take immediate action to prevent, reduce, or mitigate damages to persons, property, or the environment. For example: *A hazardous material or waste storage tank becomes unstable, and it begins to tilt off center or lean to one side. The tank is in danger of falling over and releasing its contents to the floor or ground.*

#### A significant release is subjective.

Whether it is significant depends on the amount, hazards of the material or waste, and the proximity of sensitive receptors. Hazardous materials releases that exceed reportable quantities, result in an emergency response, cause injury or go offsite are clearly significant. A release that is kept under control, presents no hazard, is completely contained onsite and quickly removed may not be significant.

#### Who receives release reports?

A release of a reportable quantity of a hazardous material must be reported. Reportable Quantities (RQ) are listed in the "List of Lists". This document is maintained by the United States Environmental Protection Agency and is available at <http://www.epa.gov/ceppo/pubs/title3.pdf>. Another way to determine if a RQ has been exceeded is to use the Department of Energy's RQ calculator, an online tool at <http://homer.ornl.gov/oepa/rq/>.

It is prudent to periodically check all the hazardous materials stored or used at a facility. Ensure that adequate and appropriate spill containment/mitigation equipment is on hand and determine the RQs and likely release reporting scenarios in advance. This information could be included in the facility release reporting notification procedures.

<http://www.sdcdeh.org/hmd/index.html>

Flow charts or a list of questions might aid facility personnel in this task.

These sample questions can be used to determine if a release is reportable:

- Was it a hazardous material?
- Was there a threatened release?
  - ☐ Was it reasonably necessary to take immediate action to prevent, reduce, or mitigate damages to persons, property, or the environment?
- Was there a release?
  - ☐ Was it into the environment?
  - ☐ Was a person injured or exposed?
  - ☐ Was it an emergency?
- Was the release?
  - ☐ A federal Reportable Quantity (RQ)?
  - ☐ Reportable per 22 CCR?
  - ☐ Reportable per 23 CCR? or
  - ☐ Significant?
- What may not be considered as "significant release"?
 

Examples that may not be considered "significant" are releases within a facility's boundaries where all the following conditions are met:

  - ☐ Release is under control at all times (no threat)
  - ☐ Release does not present a health and safety hazard
  - ☐ Release is completely contained onsite
  - ☐ Release does not harm the environment
  - ☐ Release is completely recovered or removed quickly



### How to follow-up after a release?

■ Revise the initial release report as necessary to accurately portray the situation.

- Review and revise release response plans if they were not completely effective tools during the emergency.

Remember to report a release immediately to the governmental agencies in accordance with State and Federal law. For additional hazardous materials release reporting information, review the 2006 State of California OES Hazardous Materials Spill/Release Notification Guidance at:

<http://www.oes.ca.gov/Operational/OESHome.nsf/PDF/Spill%20Notification%20Guidance.pdf>



## Radiation Safety in Dental Practices



*By Ana Kelleher,  
Associate Health  
Physicist*

The County of San Diego is one of the few local agencies designated by the California Department of Health Services (CDHS) to conduct inspections of facilities that use radiation machines or radioactive materials. The inspection staff from the Radiological Health Program of the Department of Environmental Health, Hazardous Materials Division (DEH-HMD) enforces regulations contained in Title 17 of the California Code of Regulations as well as regulations of the U.S. Nuclear Regulatory Commission found in Title 10 of the Code of Federal Regulations. Inspectors promote radiation safety for employees and the public while performing routine compliance inspections and complaint investigations.

### Registration requirements:

Facilities are required to register their radiation-producing machines with the CDHS within 30 days of acquisition. They must also notify CDHS within 30 days of any change in: facility's name, address, or the installation, receipt, sale, transfer, disposal or discontinuance of use of any radiation machine by sending a revised [Radiation Machine Registration Form](#). Registration renewal fees are paid every two years and **it is the facility's responsibility** to renew their registration in a timely manner to stay in compliance and prevent late fees. X-Ray machine registration is handled by the CDHS, Radiologic Health Branch. You can visit <http://www.dhs.ca.gov/rhb/HTML/FAQs.htm> for more information about x-ray machine registration.

### Radiation Survey of X-ray machines

The objective of dental radiography is to obtain diagnostic quality dental X-rays with minimum radiation

exposure to the patient, dental personnel and the public. During inspections of dental X-Ray machines, Inspectors carefully evaluate a number of factors that will ensure this goal. A typical inspection will focus on these main areas:

#### Exposures:

To check equipment performance when taking X-Rays, at least three exposures will be performed during the inspection. These exposures are recorded to determine if the average dose of radiation received by patients is within the safety limits set by the CDHS. This will also determine whether the exposures are accurate and reproducible. If the dose exceeds the safety limits, further exposures will be performed using suggested exposure factors until a permissible patient's dose is achieved.

#### Calibrations and accuracy of measurements:

Field Inspectors will check all of these, including supporting documentation:

- ☐ Equipment calibrations
- ☐ Accuracy of timer (exposure must terminate upon the release of exposure switch)
- ☐ Accuracy of kVp (kilovoltage selected on the machine)
- ☐ Proper X-ray tube filtration
- ☐ Availability of visible/audible X-ray production indicator to operator
- ☐ Stability of X-ray tube head (must not move once positioned by the operator)
- ☐ Distance of operator from the patient while operating x-ray equipment (operator must be able to stand at least 6 feet away during exposure or stand behind a protective barrier such as a wall).
- ☐ Posting signs (a copy of Title 17, Notice to Employees and Radiation Safety Instructions)
- ☐ Film badge monitoring reports

#### Protection against radiation for X-ray machine operators and the public:

Operator practices are evaluated to ensure they follow these guidelines to protect operators and their patients:

- ☐ Use adequate shielding, including lead shielding when necessary
- ☐ Stay at least 6 feet away from the X-ray tube
- ☐ Remove individuals other than the patient from the room when X-rays are being taken
- ☐ Do not hold patients unless exceptional occasions require it
- ☐ Provide a lead apron to patients to protect them from radiation, protecting the thyroid area as much as possible,
- ☐ Avoid repetitive and/or unnecessary radiographs

#### Reducing Patient Exposure

During their field work, Radiologic Health Inspectors come across new technology that reduces patient exposure. High speed film and digital radiology are two of those innovations:

**High Speed Film:** Dental radiography of diagnostic quality can now be made with minimum exposure to the patient by using a high speed film such as type E or I and matching the safelight in the darkroom to avoid fogging.

**Digital Radiology:** Replacing conventional radiography, this technique offers even lower radiation dose per exposure and has the added advantage that it eliminates the generation of hazardous waste from film development.

The overall goal of the Radiological Health Program is to minimize the exposure to patients, the public and personnel involved in the performance of X-ray examinations. Inspecting X-ray machines used for dental purposes is just one way to protect the citizens of San Diego County. Other activities of the program will be highlighted in future issues of the Environmental Press.

For additional information about the Radiological Health Program, visit: <http://www.sdcdeh.org/hmd/rad.html>

<http://www.sdcdeh.org/hmd/index.html>

## Perchlorate Regulations

By Jim Henderson, EHS III

Perchlorate is a chemical that is both naturally-occurring and manufactured. Most commonly it is an ionic salt formed with ammonium, potassium, or sodium. It is a strong oxidizer in concentrated form, and is stable and mobile in the environment at reduced concentrations. Perchlorate contamination of soil, water, and food can pose health threats. At levels of a few parts per billion (ppb) perchlorate may interfere with human thyroid function, which in turn can lead to developmental defects. Pregnant women, children and infants are identified as the populations most at risk from exposure to perchlorate.

### Sources of Perchlorate

- Rocket / Munitions manufacture
- Rocket/Munitions maintenance
- Munitions firing range
- Fireworks/flare manufacture
- Disposal discharge of waste
- Industrial Processes
- Chilean Nitrate fertilizers
- Naturally occurring
- Unknown sources



Perchlorate has been detected in hundreds of public water supply wells in California, which is one of the reasons that the Perchlorate Contamination Prevention Act, AB 826 was passed in 2003. The act required the Department of Toxic Substances

Control (DTSC) to adopt regulations on perchlorate management by December 31, 2005. The regulations, which became effective July 1, 2006 were added to the California Code of Regulations, Title 22, Division 4.5, Chapter 33, § 67384.

Current reporting requirements for perchlorate materials have not changed. They still follow the Hazardous Materials Business Plan disclosure requirements (500 pounds, 55 gallons). What has changed is the concentration of perchlorate in the materials, as defined in the new regulations, which will trigger the inventory/Business Plan requirement for businesses. The new requirements define perchlorate materials as all **“perchlorate containing substances” that have more than 6 parts per billion (ppb) of perchlorate.**

DTSC has also developed additional

**Consult [www.dtsc.ca.gov](http://www.dtsc.ca.gov) for more about Best Management Practices for Perchlorate Materials.**

requirements and notifications for business and households handling perchlorate materials. DTSC calls the requirements, Best Management Practices (BMPs) for Perchlorate Materials.

### BMP Requirements

- Labeling
- Packaging
- Containment
- One-time Notification
- Special Requirements
- Spill Response
- Proper Disposal/Discharge
- Pollution Prevention

Almost every business that handles, stores, or uses perchlorate materials will be affected by some portion of these regulations. At a minimum, businesses will be regulated to make sure that the materials are properly

packaged, stored and labeled. Depending on quantities handled and business activities, businesses may be required to notify, monitor the materials and implement pollution prevention practices. There are of course some exemptions.

### Perchlorate Exemptions:

- Hazardous waste properly managed
- Contaminated media with regulatory oversight
- Perchlorate materials containing less than 6 ppb of perchlorate
- Consumer goods manufactured or transported into California prior to December 31, 2006.

For more information consult DTSC's perchlorate web pages at: <http://www.dtsc.ca.gov/HazardousWaste/Perchlorate/index.cfm>.

This page has general information, fact sheets and links to other online resources.

<http://www.dtsc.ca.gov/LawsRegsPolicies/Perchlorate-BMP-Emergency.cfm>

This page has the emergency regulations for Perchlorate BMPs

[http://www.dtsc.ca.gov/HazardousWaste/Perchlorate/upload/HWM\\_FS\\_Perchlorate\\_7-061.pdf](http://www.dtsc.ca.gov/HazardousWaste/Perchlorate/upload/HWM_FS_Perchlorate_7-061.pdf)

This is a link to a 7 page fact sheet describing DTSC's Best Management Practices for Perchlorate.



## Leeches, Maggots and Fetal Pigs

By Susan Hahn, EHS III

### What do leeches, maggots and fetal pigs have in common?

Not much. One thing they do have in common is the need to determine how to manage them once they have been used and are ready for disposal. In a series of three articles, we are going to guide you through the waste determination process for these three unusual wastes. In this article we will deal with maggots used in wound care.

In the ever-changing world of science and medicine, businesses must keep up with changes on the materials they use and wastes they generate, whether they are hazardous or medical. While it is always the generator's responsibility to make an accurate waste determination, the Inspectors are called upon to provide accurate guidance to businesses. This is true especially when dealing with new products used in medical diagnosis and treatment, that when used, can become a waste. Some can be classified as medical waste, hazardous waste, or both.

Recently, the FDA approved two unusual medical devices. The medicinal leech (*Hirudo medicinalis*) and the maggot or fly larvae were approved to be used in Biotherapy. Biotherapy is the use of living animals as an aid to medical diagnosis and/or treatment. We will discuss medicinal leeches in the second article of this series.

In the past, much of industry's experience with waste animal specimens has been limited to those preserved and fixed in 10% formalin. Nowadays, specimens can be purchased from a number of sources in a variety of preservative solutions. Specimen studies may introduce additional contaminants.

The challenge is to determine how to properly manage waste specimens according to existing laws and regulations.

### How can we best characterize these wastes?

By answering these questions, one by one.

#### Is it a waste?

Typically, we first go to Title 22 of the California Code of Regulations (22 CCR), section 66261.2. This section provides a lengthy and at times, confusing definition of waste. If the item in question meets the definition of a waste, then we must determine whether it is hazardous.

**Is it hazardous waste?** Section 66261.3 of 22 CCR defines a hazardous waste. If it is hazardous, then we must determine whether it can be considered mixed waste.

**Is it mixed waste?** Section 117730 of the Medical Waste Management Act defines waste with both chemical and biological characteristics as mixed waste. "Mixed waste" means mixtures of medical and non-medical waste. Mixed waste, is medical waste, except when the mixture consists of:

**1-Medical waste and hazardous waste:** In this case, the mixture is **hazardous waste** and it must be managed according to **hazardous waste** statutes and regulations.

**2-Medical waste and radioactive waste:** This mixture is **radioactive waste** and it must be managed according to statutes and regulations applicable to **radioactive waste**.

**3-Medical waste, hazardous waste and radioactive waste:** This waste is **mixed radioactive waste** and must be managed according to statutes and regulations applicable to **hazardous waste** and **radioactive waste**.

It is necessary to consider these laws and regulations along with other regulatory guidelines to make a proper waste determination.

### Maggot Debridement Therapy or A Case of the Munchies

When wound infections don't respond to antibiotics, *Maggot Debridement Therapy* can help.

It is an alternative treatment where live maggots, also known as fly larvae, are used to restore healthy tissue.



The maggots are placed in a cage-like dressing over the wound for 2-4 days. They cleanse the wound by eating the damaged tissue without harming the healthy tissue, help clear the infection by excreting an anti-microbial substance that kills bacteria, and they stimulate wound healing. The question then ensues: *What to do with the used maggots? Are they a waste?*

### How to do a waste determination for maggots or

#### Used Maggots are not Recyclable

**"Are they a Waste?"** Used maggots meet the definition of a waste, according to 22 CCR. Section 66261.2 (c) states:

A material is a waste if it is relinquished by being any of the following:

- (1) disposed of;
- (2) burned or incinerated.

Monarch Labs, a distributor of medical maggots, advises in the product insert: *"Handle and discard medical maggots and the dressings as you do your other infectious dressing waste (i.e. discard in red bags destined for autoclaving or incineration)."*

### Are they a medical waste?

Since they are a waste, but are not mixed with chemicals, we know they are not hazardous waste. We can find out if they are medical waste by looking at the California Medical Waste Management Act (MWMA).

(continued on page 7)



## ACS Students Get Practical Chemistry Demonstration

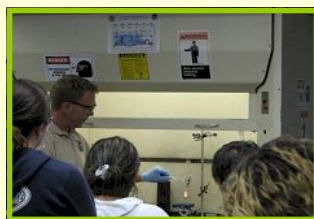
By Matt Trainor,  
Supervising Environmental Health Specialist



HMD hosts Student Affiliates of the American Chemical Society, SDSU Chapter

On May 3, 2006, Nick Vent, Response Services Supervisor and Todd Burton, HMD Emergency Response Team member hosted a group of 19 students from San Diego State University (SDSU). All of them are Student Affiliates of the American Chemical Society, SDSU Chapter. During a tour of the Emergency Response lab, Nick Vent discussed the role of the Emergency Response Team in San Diego County and described how chemistry is used by the team. The tour included demon-

strations of several of the instruments used by the team in the field: colorimetric indicator tubes, portable gas chromatograph, combustible gas meter, and infrared absorption detector.



Todd Burton, shown at the insert, discussed field hazard categorization techniques including the physics of water insoluble solvents and the spectroscopy of metals. Todd demonstrated the "hot wire" test for presence of chlorine. He also showed the self sustaining exothermic reaction that can occur when heat is applied to a chemical acting as both fuel and oxygen source. The students, undergraduate and graduate students in chemistry and engineering, were visibly impressed by the demonstration. Several students asked about employment opportunities related to emergency response and environmental health. We hope that some of these students will go on to a career in the environmental field.

## Leeches, Maggots and Fetal Pigs

(continued from page 6)

In order for a waste to be a **medical waste**, as described in section 117690, it must be **both**:

- (1) Waste generated during the diagnosis, treatment, or immunization of human beings or animals, biologicals, research into aforementioned, **AND**
- (2) Either a Biohazardous waste or Sharps waste.

Biohazardous waste is defined in section 117635 of the MWMA. The medical maggot *may* meet section 117635 (c) *animal parts, tissues, fluids or carcasses suspected of contamination by infectious agents that are contagious to humans*.

To determine if used maggots may be a medical waste, we turn to a statement made by Ronald Sherman, the Medical Director at Monarch Labs, in response to a question about the maggots' infection potential from a Staph aureus-infected wound:

*"Yes, USED medicinal maggots are contaminated by the microbes in the wounds. That is why they should be handled as infectious waste.*

*Yes, they could mature to flies, which is why they should be handled as POTENTIALLY FLYING INFECTIOUS WASTE. If the maggots did escape they would burry themselves deeper into the trash bin and pupate, thereby becoming immobile for 2-3 weeks."*

Based on this information the used maggots (carcasses) are suspected of being contaminated and thus, are biohazardous. Therefore, the used medical maggot is a regulated medical waste, because it is used in the treatment of a human being **and** it is biohazardous. Used maggots must then be managed in accordance with the requirements set forth in the Medical Waste Management Act. Even when maggots are used in non-infected wounds, to avoid confusion, most facilities prefer to manage them as medical waste and make this part of their facility's Best Management Practices.

## HMD'S OUTREACH CORNER



Training for Industry and the Community Completed Recently

May 3, 2006: *"Significant Violations in Research & Development and Biotechnology Labs."*

May 17, 2006: *"How to Eliminate the Top 10 Violations in Research & Development and Biotechnology Labs."* These presentations are part of HMD's "Compliance Through Education" project.

July 17, 2006 *'Careers in Environmental Health'* was presented to 8th graders attending UCSD's Tech Trek Camp for Girls.

August 29, 2006 and June 13, 2006: *The New Uniform Hazardous Waste Manifest Workshop* presented in coordination with the Department of Toxic Substances Control and the California Waste Association.

### Upcoming Presentations and Training

November 15, 2006 – *Plating Shop Compliance Update at the Industrial Environmental Association and California Manufacturers & Technology Association Environmental and Regulatory Issues Conference and Exposition.* For additional information on upcoming presentations and to RSVP, please call 619-338-2231

**September 5, 2006 is the effective date for generators in the country to switch to the new Uniform Hazardous Waste Manifest adopted by U.S. EPA**

### DAVE CAMMAL

(continued from page 1)

Dave remembers how years ago, new personnel would be sent on a ride-along with the different programs within the department. This was a great way to be introduced; especially when it was during this orientation he first met his wife to be, Barbara.

Dave's student worker job led to a permanent position as a restaurant inspector with the Food and Housing Division. After a couple of years he transferred to the Hazardous Materials Division and became a Hazardous Materials Specialist. After several years doing field inspections, Dave transferred to the Emergency Response Program in 1990, where he has been a member of the Hazardous Incident Response Team (HIRT) for more than 15 years.

Being the second most experienced HIRT member, Dave has been the constant presence when responding to many of the chemical emergencies in the county during the last 15 years. Responding to chemical emergencies is only one of Dave's responsibilities. Over the years, he has shared his passion for his career by training the new generations of emergency responders, not only in the county, but in the state and the nation.

Dave has been a key element in developing the San Diego County Emergency Response program into one of the leaders in the nation. In fact, one indication of HIRT team's excellence is their success in the Hazcat competition at the annual Continuing Challenge Conference. The competition consists of identifying an unknown chemical using a field identification kit. Last September, for the fifth year in a row the HIRT team won this competition. Three of those years Dave has been part of the two-member team competing for the award.

Dave also participates in the County's Metropolitan Medical Strike Team, continuously trains with his counterparts on the San Diego Fire Department Hazmat team, and helps oversee the operations of the after-hours HIRT team. One of three full time HIRT members, Dave responds to non-business related hazardous materials complaints, evaluates new equipment and technology to use in the program and participates in a multitude of other HIRT Team operations. Like other members of the team, he is on call at least one week a month to respond to hazardous materials incidents that occur after hours and during the weekend. Another important part of his job is to assist staff from the Unified Program in sampling expeditions requiring his expertise.

In his spare time, Dave is an avid golfer and plays softball. Being a Padres fanatic, he thanks his luck for working only a block away from the ballpark. For the last three years, Dave has helped organize the DEH Golf Tournament to benefit the Polinsky Children's Center. The tournament has quickly become a DEH tradition.

Dave and his wife Barb make use of their time off by traveling the world, working on home improvement projects, and just hanging out with their friends. A couple of years ago, Dave went on the trip of his lifetime, a golfing pilgrimage to the home of golf, St. Andrews, Scotland. This is one trip that he wouldn't mind taking again.

As you can see, Dave has been around for a while, but don't think he will be going anywhere soon. Barb won't let him retire just yet! When he retires, Dave will switch the hazmat suit for his golfer's attire and along with Barb, he will continue enjoying traveling, golfing, and baseball.





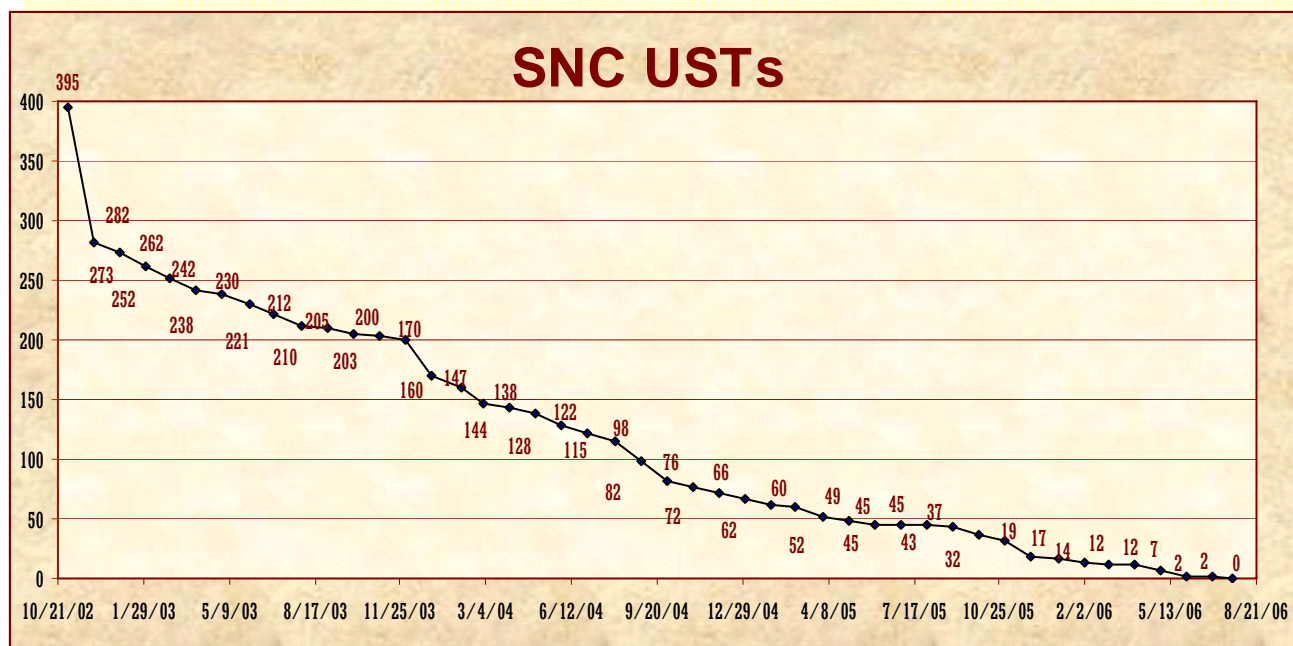
## HMD EXCEEDS UST PERFORMANCE MEASURES GOAL

On July of 2002, the Hazardous Materials Division embarked on an ambitious project to reduce environmental contamination from Underground Storage Tanks (USTs) that were not in compliance. Using 2001 as a baseline, HMD identified a total of 395 significantly non-compliant sites (SNC) and set a goal to reduce their number by 50% on or before January 1, 2006. All HMD compliance groups worked relentlessly in improving compliance at UST sites, achieving and surpassing the goal they set in 2002.

In the last four years, HMD reached important milestones, including:

- By 01/03/2003, HMD identified deficient and abandoned USTs with no operating permit or in temporary closure to reflect a true 2002 baseline.
- Beginning 01/03/2003, HMD initiated action within 6 months on any identified SNC-USTs
- By 03/01/03, all UST data was transferred to HMD's new database, the Kiva system.
- By 03/10/03, all UST operating permits were issued out of data captured in the Kiva system.
- By 01/01/04, HMD initiated action against USTs identified on the 2002 SNC baseline list.
- By 01/01/06, reduced by 95% of the 2002 baseline.

The success of the project was such that on July 25, 2006 the last non-compliant UST (from the 395 sites identified in the original list) was pulled out of the ground.



Using a systematic approach to compliance, by July of 2006 the Hazardous Materials Division eliminated all 395 Significantly Non-Compliant Underground Storage Tank sites identified in 2001.

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